tian forest. First of all, I suspect, the White Ants make a nest, then the seeds of the fern are deposited in it and grow, and afterwards this Tropic-bird takes possession of it.

So much for the birds of Savanne. The absence there of two species which are elsewhere so common is curious—I mean *Zosterops borbonica* and *Munia punctularia*; the first I never saw near the sea, the second nowhere at all in the district. I have heard of a fine Pigeon, which is said to occur in this part of the island, but it seems to be gradually getting scarcer, owing to the destruction of the forests, and I was not lucky enough to meet with it. I suspect it will turn out to be *Alectrœnas nitidissima.*

XXVIII.—*Remarks on the Geographical Distribution of the Genus* Turdus. By PHILIP LUTLEY SCLATER.

(Plate VIII.)

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THE Thrushes proper, of the genus *Turdus* as now restricted, although hardly to be called cosmopolitan in their range, since this particular form is not known to occur in New Guinea, Australia, and the greater portion of the Pacific islands, are very widely distributed over the earth's surface. In company with a figure of *Turdus fulviventris* (a fine American species of this group, which has lately been described in the 'Proceedings[*] of the Zoological Society,' and will be readily recognized by its distinct style of coloration), it may not be out of place to offer some few remarks on the present state of our knowledge of the geographical distribution of the members of this genus.

Beginning with the PALÆARCTIC[†] region, which embraces the whole northern part of the Old World, the species of Thrush inhabiting its western portion are six in number—the well-known *Turdi torquatus, merula, viscivorus, pilaris, musicus,* and *iliacus.* Though *Turdus migratorius* and one or more of the group of little Thrushes allied to *T. wilsoni* of the United States have occurred accidentally in Europe, they cannot be considered to have any real claims to a place in its Avifauna.

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[*] See P.Z.S. 1857, p. 273, et 1859, p. 331.

[†] Cf. Journ. Proc. Linn. Soc., Zool., ii. p. 130 *et seq.*

On the other hand, the wanderers from the East, such as *Turdus naumanni**, *T. atrigularis, T. ruficollis, T. pallens,* and *T. sibiricus,* most of which have occurred several times in Europe, though more strictly belonging to the fauna of Central Asia, may be with propriety introduced into the European list as "accidental visitors." Some of the European species (such as *T. iliacus*) extend likewise far into Central and North-eastern Asia; but when we arrive in Amoorland and approach the confines of China, we find that a total change in the species has taken place. Out of the seven Thrushes recorded by Dr. v. Schrenck as found in this country, not one is a truly European bird; and in addition to the Siberian species already mentioned, we meet with *T. daulias* and *T. chrysolaus,* both originally described from Japanese specimens.

In Japan, *Turdus cardis* occurs, besides *Turdi sibiricus, daulias, fuscatus, pallens,* and *chrysolaus,* which have been already adverted to as likewise occurring more to the westward. In China, Mr. Swinhoe's researches† have already brought to light *Turdi sibiricus, daulias, pallens,* and *chrysolaus,* as being met with more or less regularly during the winter and spring migrations: *Turdus mandarinus* is a common resident, and represents our Blackbird: *T. cardis* occurs during migration, and was found √ nesting at Macao (*anteà,* p. 37). I am not aware that the more southern portion of the Palæarctic region furnishes any authenticated species besides those already enumerated, except the very singular hook-winged Blackbird, *Turdus dactylopterus* (*Merula dactyloptera*, Bp.), which is found in Asia Minor. We may therefore take the well-ascertained species of the genus belonging to the Palæarctic region as about sixteen in number, distributed somewhat as follows :—

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* Dr. v. Schrenck, who does not usually err on the side of admitting too many species, records in his 'Amur-reise' (i. p. 353) the occurrence in Amoorland of the true *T. naumanni* of Temminck (*T. dubius,* Naum., nec 1862 Bechst.), and states his decided opinion as to its distinctness from *T. fuscatus* of Pallas. 319 The latter is figured as *T. naumanni* by Mr. Gould in his 'Birds of Europe' (vol. ii. pl. 79), as *T. fuscatus* in his 'Birds of Asia' (part iv.), and as *T. eunomus* by Temminck (Pl. Col. 514). The former (*T. naumanni,* verus) is figured in Naumann's 'Nat. d. Vög. Deutschl.' pl. 68. fig. 1, and pl. 358. fig. 2. I am inclined to think that Mr. Gould has done wrong in uniting these two species. *Turdus fuscatus* is a well-known Japanese bird, and, as Dr. v. Schrenck informs us, the "*commonest*" of all the genus in Amoorland. Of *T. naumanni,* on the other hand, but one example was obtained in Amoorland, and it appears to be a more western bird, which occasionally straggles into Europe. See Homeyer's article in 'Rhea,' ii. p. 155 *et seq.*, and Naumann's own explanations on this subject in 'Naumannia,' vol. i. pt. 3. p. 11, and pt. 4. p. 4.

† See 'Ibis,' 1860, p. 56, et 1861, p. 23.

√

Europe.	Asia Minor.	Siberia.	Amoorland.	Japan.	China.
viscivorus.	*viscivorus.*				
pilaris.	*pilaris.*				
		fuscatus.	*fuscatus.*	*fuscatus.*	
		naumanni.	*naumanni.*		
musicus.	*musicus.*				
iliacus.	*iliacus.*	*iliacus.*			
			daulias.	*daulias.*	*daulias.*
		pallens.	*pallens.*	*pallens.*	*pallens.*
			chrysolaus.	*chrysolaus.*	*chrysolaus.*
		ruficollis.	*ruficollis.*		
		atrigularis.			
		sibiricus.	*sibiricus.*	*sibiricus.*	*sibiricus.*
			cardis.	*cardis.*	*cardis.*
merula.	*merula.*				
	dactylopterus.				
					mandarinus.
torquatus.					

Qu 1863 p 197 & 198

Let us next take a glance at the Thrushes of the INDIAN region. On the southern slopes of the Himalayas we find three species intruding from Northern Asia—*Turdus fuscatus, T. atrigularis*, and *T. ruficollis*, and besides these, *Turdus hodgsoni* (hardly distinct from our Missel-Thrush), *T. albocinctus* (representing our *T. torquatus*), and *Turdi castaneus, boulboul, wardii, dissimilis, pelodes*, and *unicolor*. In the peninsula of India we meet with *Turdi simillimus* and *nigropileus*, whilst *Turdus wardii* also occurs there, and in the cold season *T. dissimilis* "is not rare in Lower Bengal*." The Ceylonese species of true Thrush appear to be *T. wardii* and *T. kinnisii*, the latter representing *T. simillimus* of India and our *T. merula*.

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In the Malayan portion of the Indian region Thrushes are much less numerous. *Turdus rufulus* (*T. modestus*, Eyt.) is the only Thrush I have ever noticed in collections from Malacca. This bird, which, according to Mr. Blyth, ascends the peninsula as high up as Arracan (Journ. As. Soc. Beng. xvi. p. 144), is said by Drapiez to occur also in Java, and certainly ranges as far as Labuan, where Mr. Mottley obtained specimens, now in Mr. L. L. Dillwyn's collection. In Java also occur Temminck's *Turdus mutabilis*—a very close ally of *T. sibiricus*, but, according to Prince Bonaparte (Compt. Rend. xxxviii. p. 4), distinguishable from it—and Horsfield's *Turdus javanicus*, of which later synonyms appear to be *Turdus fumidus*, Müll., and *T. hypopyrrhus*, Hartlaub (Verz. Brem. Samml. p. 43). A nearly allied representative of the latter bird inhabits Timor, if the specimens are accurately labelled in the Leyden collection, and may be called *Turdus schlegelii* *, after the present eminent director of that establishment. Excluding therefore the three intruders from Northern Asia, the Indian Thrushes appear to be about fifteen in number, some of which (e. g. *T. pelodes* and *dissimilis*) require further comparison and examination.

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* Blyth in Journ. As. Soc. Beng. xvi. p. 145.

Himalayas.	India.	Ceylon.	Malacca.	Java.	Labuan.	Timor.
hodgsoni.						
			rufulus.	*rufulus.*	*rufulus.*	
				javanicus.		
						schlegelii.
	dissimilis.					
pelodes.						
unicolor.	*unicolor.*					
boulboul.						
castaneus.						
albocinctus.						
	nigripileus.					
	simillimus.					
		kinnisii.				
wardii.	*wardii.*	*wardii.*				
				mutabilis.		

In the Æthiopian region Thrushes are not so plentiful. There appear to be, at the present moment, only nine well-ascertained species known to occur in those portions of Africa and Asia which are within its boundaries; namely,—

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* Turdus schlegelii, sp. nov.

Turdus fumidus, Temm. in Mus. Lugdunens. (partim).

Pallide chocolatino-brunneus, abdomine castaneo, crisso eodem colore vix tincto: rostro et pedibus flavis: crassitie *Turdi javanici*.

Hab. In ins. Timor.

Mus. Lugdunensi.

Obs. Affinis *T. javanico* (sive *fumido*) et statura eadem, sed hic ventre imo albo, et crisso nigricante, albo striato differt.

N.E. Africa.	W. Africa.	S. Africa.	S.E. Africa.
			guttatus, Vig.
simensis, Rüpp.	*simensis*, Rüpp.	*simensis*, Rüpp.	
pelios, Bp.	*pelios*, Bp.		
		libonyanus, Sm.	
olivacinus, Bp.			
		olivaceus.	
	olivaceo-fuscus, Hartl.		
			smithii (*obscurus*, Sm.).
	apicalis, H.		

In the AUSTRALIAN region, as I have already stated, true *Turdi* are not at present known to occur in New Guinea or Australia. Mr. Gray has, however, lately described a *Turdus erythropterus* from Gilolo†; and a Blackbird occurs in the Samoan Islands, which is probably *Turdus vanicorensis*, Q. et G. In New Caledonia and some of the adjacent islands, a little group of Thrushes is found, which somewhat deviates in structure from the ordinary type, and will probably be ultimately separated from true *Turdus*. The species of this section at present known are—*Turdus xanthopus*, Forster, from New Caledonia, *Turdus vinotinctus* (*Merula vinitincta*, Gould, P.Z.S. 1855, p. 165), from Lord Howe's Island, and *T. nestor*, Gould, from Norfolk Island. We have, therefore, only five Thrushes in the Australian region.

In the New World, on the other hand, the genus *Turdus* is very fully represented. Upwards of forty species are distributed over the different parts of the Northern and Southern continents. In a paper read before the Zoological Society (see P. Z. S. 1859, p. 321 *et seq.*), I have given some account of the whole of the members of the family *Turdidæ* in the New World, and it will be the less necessary for me to say much about the subject on the present occasion, except so far as is wanted to complete an outline of the general distribution of the genus.

In the NEARCTIC region, forming the northern portion of the New World, the following may be taken as restricted to the Atlantic slope :—*T. mustelinus*, *pallasi*, *fuscescens*, *swainsoni*, and *aliciæ*. On the Pacific region opposite, we find *T. pallasi* replaced by *T. nanus*, and *T. fuscescens* by *T. ustulatus*, while *T. migratorius* also occurs, and besides it the well-marked species *T. nævius*. On the table-land of Mexico are found probably all or, at any rate, the greater part of these species (except, perhaps, *T. nævius*) as winter migrants, and on the western coast *T. flavirostris*, while *T. pinicola* inhabits the pine ridges of Southern Mexico. Three other species (*T. infuscatus, grayii,* and *assimilis*), which I have placed under the head of Mexico in my list in the 'Proceedings,' belong, I believe, to the *tierra caliente* exclusively, and must be set down to the account of the Neotropical region.

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† See P.Z.S. 1860, p. 350.

The Thrushes of the Nearctic region may therefore be estimated as twelve in number; viz.—

Eastern N. America.	Western N. America.	Table-land of Mexico.
migratorius.	*migratorius.*	*migratorius.*
	nævius.	
		flavirostris.
mustelinus.		*mustelinus.*
pallasi.		
	nanus.	
		silens.
fuscescens.		
	ustulatus.	
swainsoni.		*swainsoni.*
aliciæ.		
		pinicola.

If we exclude from the Neotropical region *Turdi migratorius, mustelinus,* and *swainsoni,* which are really only intruders from the north, we shall find left about twenty-seven species, distributed somewhat as follows:—

1. Southern Mexico.	2. Guatemala and Central America.	3. Antilles.	4. New Granada.	5. Chili, Peru, and Arg. Republic.	6. South-eastern Brazil.	7. Guiana.	8. Venezuela, Trinidad, and Tobago.
							xanthosceles.
infuscatus.	*infuscatus.*				*flavipes.*		*atrosericeus.*
	nigrescens.						
	rufitorques.						
			gigas.				
				fuscater.		[*thalmus.*	*olivater.*
				chiguanco.		*gymnoph-*	*gymnoph-*
	plebeius.	*aurantius.*			*fumigatus.*	*fumigatus.*	[*thalmus.*
grayii.	*grayii.*			*serranus.*			
			ignobilis.			*albiventris.*	
assimilis.	*leucauchen.*				*crotopezus.*		
			phæopygus.			*phæopygus.*	*phæopygus.*
					albicollis.		
		jamaicensis.		*falklandicus.*			
					rufiventris.		
			fulviventris.				

The general distribution of the genus *Turdus* over the earth, therefore, taking Mr. Wallace's revised areas (cf. 'Ibis,' 1859,

p. 451), may be assumed to be nearly as follows, as far as we are at present acquainted with it:—

	Area in square miles.	No. of species of *Turdus*.	No. of sq. miles to each species.
1. Palæarctic	12,500,000	16	780,000
2. Indian	3,100,000	15	200,000
3. Æthiopian	6,500,000	9	722,000
4. Australian	2,600,000	5	520,000
5. Nearctic	5,500,000	12	458,000
6. Neotropical	5,600,000	27	207,000
The whole earth . .	35,800,000	84	426,000

Whence it plainly appears that the genus has attained its greatest degree of development in South America and India, and that the Palæarctic and Æthiopian areas are comparatively very poor in their number of species.

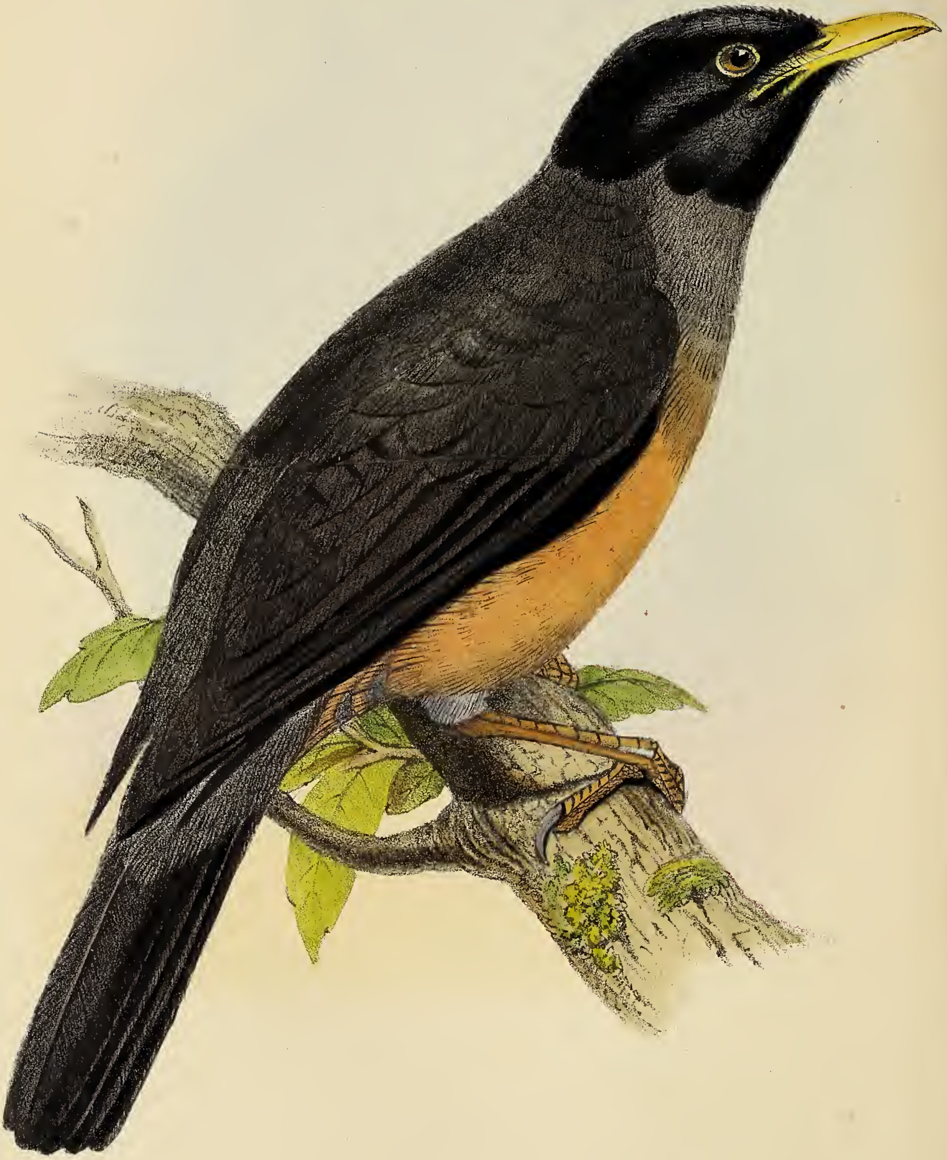
XXIX.—*On the Ornithology of Ceram and Waigiou.*

By Alfred R. Wallace.

(Plate IX.)

Ever since I arrived in the Moluccan seas (now four years ago), I have been repeatedly told, "if you want fine birds, go to Ceram;" and the same idea appears to prevail in Europe, for my correspondent writes me, "Mr. Gould and Mr. Gray both say the birds of Ceram are *very fine*."

With such encouragement, it was with great expectations I started, in October 1859, for the south-western part of the island. What was my surprise to find one bird very plentiful that was not to be found in Amboyna, and *only one*, namely the *Tropidorhynchus subcornutus*, Temm.! There was absolutely nothing else; and the best birds of Amboyna, as *Tanysiptera dea* and *Lorius domicella*, were so scarce that I could not get a specimen of either of them. I changed my locality—I went into the very centre of the island; but still nothing new, and birds in general scarcer and scarcer. At last, however, after great exertions, I did get two more species new to me, *Eudynamys ransomi* and *Corvus violaceus*; and one, I believe, new to science, and very interesting



J. Jennens fec. et lith. M & N Hanhart Imp^t

TURDUS FULVIVENTRIS Scl. 1857

= [illegible] 1857